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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/645,692	08/21/2003	Randolph C. Brost	85078CEB	9286

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EXAMINER
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MULLER, BRYAN R

ART UNIT	PAPER NUMBER
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3723

DATE MAILED: 11/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/645,692	Applicant(s) BROST, RANDOLPH C.	
	Examiner Bryan R Muller	Art Unit 3723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 August 2003.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 3, 4 and 10-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 5-9 and 13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Election/Restrictions***

1. This application contains claims directed to the following patentably distinct species of the claimed invention:

I. Shape of polishing member

A) Substantially toroidal

B) Substantially polygonal

C) Substantially star-like shape having irregularly configured lobes

II. Support member mounted to polishing member by

A) Chemical bonding

B) Thermal bonding

C) Mechanical bonding

D) Direct molding

2. Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claim 1 is considered to be generic.

3. Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

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4. Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

5. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

6. During a telephone conversation with Payton Watkins on October 25, 2004 a provisional election was made without traverse to prosecute the invention of species I (A), represented by claims 1 and 2 and species II (A), represented by claims 1 and 9. Affirmation of this election must be made by applicant in replying to this office action.

7. Claims 3, 4 and 10-12 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

### ***Specification***

8. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The specification does not provide proper antecedent basis

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for the material claimed in claims 3, 9 or 10. It is not disclosed in the specification that the polishing element may have a substantially polygonal shape or that the polishing element may be mounted to the support member by chemical or thermal bonding.

***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1, 6-8 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Mitchell (5,707,279).

10. Mitchell discloses an abrasive tool comprising a substantially rigid support member (10) having an outer perimeter for cooperating with a tool (abstract, line 4), said outer perimeter terminating at one end in a mounting surface (12), a polishing member (14) mountable to said mounting surface of said substantially rigid support member, said polishing member having a plurality of spaced compliant polishing portions (44-49), nearest adjacent ones of said plurality of spaced compliant polishing portions being separated by a recessed portion (30-35), said recessed portion capable of forming a fluid transport region when nearest adjacent compliant polishing portions are in compressive contact with a surface to be polished. Said polishing member being formed of a polymeric material such as black nitrile with a shore A hardness from about 40 to about 60, preferably from 45 to 60 (col. 4, lines 28-31).

***Claim Rejections - 35 USC § 102/103***

11. Claim 9 rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Mitchell ('279).

12. Claim 9 states that the polishing member is mounted to the support member by chemical bonding. This appears to be a product by process wherein the product itself does not depend on the process for making it. Mitchell discloses an abrasive tool as discussed supra and discloses that the arbor body (polishing member) is molded onto the mandrel (support member) (col. 4, lines 27-28). Therefore the bonding that occurs between the polishing and supporting members will be inherently the same and the products from each process will be indistinguishable from each other.

***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 1 and 2 rejected under 35 U.S.C. 103(a) as being unpatentable over Teng (6,267,642 B1) in view of Mitchell ('279).

14. Teng discloses a retaining ring for a polishing head comprising a toroidal shaped (col. 6, line 1) polishing member (40) designed to be rotated in a clockwise direction (col. 5 lines 18-21), having a plurality of spaced compliant polishing portions (44),

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nearest adjacent ones of said plurality of spaced compliant polishing portions being separated by a recessed portion (42), said recessed portion capable of forming a fluid transport region (col. 5, lines 20-22) when nearest adjacent compliant polishing portions are in compressive contact with a surface to be polished. Teng, however, fails to disclose a substantially rigid support member having an outer perimeter for cooperating with a tool said outer perimeter terminating at one end in a mounting surface intended to receive said polishing member. Mitchell discloses a similar abrasive tool as discussed supra with a substantially rigid support member having an outer perimeter for cooperating with a tool said outer perimeter terminating at one end in a mounting surface attached to a polishing member. Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to provide the invention of Teng with a substantially rigid support member having an outer perimeter for cooperating with a tool said outer perimeter terminating at one end in a mounting surface intended to receive said polishing member to allow for the polishing head to be engaged by a variety of power or hand tools to be rotated in the clockwise direction in order to polish a variety of objects while transporting fluid such as slurry to the face of the object being polished, thus making the invention of Teng more universally used with multiple tools and more easily transported without the need to also transport a set drive means.

15. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mitchell ('279) in view of Lupi ('5,655,958).

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16. Mitchell discloses the abrasive tool as discussed above, but fails to disclose that the polishing member has a continuous groove formed in a circumferential portion thereof. Lupi, however, discloses a grinding wheel for smoothing and polishing that has a continuous groove formed in a circumferential portion that is congruent with the contour of the material to be smoothed or polished (abstract, lines 7 and 8). Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to provide the polishing member of Mitchell with a continuous groove formed in a circumferential portion that is congruent with the contour of the material to be smoothed or polished in order to make the abrasive tool more specialized for its particular application which would make the tool more efficient for the polishing of a particular shape, therefore, reducing time spent on each piece to be polished and minimizing the effort to polish such surfaces.

17. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mitchell ('279) in view of Cika (5,765,259).

18. Mitchell discloses the abrasive tool as discussed above wherein the polishing element is molded onto to the support member, but fails to disclose that it may be mounted by chemical bonding. Cika teaches that portions of a product can be fabricated separately and then joined by chemical bonding (col. 7, lines 17 and 18) and that this process will make use of smaller quantities of material and/or minimize problems associated with shrinkage, uneven cooling and the like that may be encountered if the product portions are to be injection molded (col. 7, lines 26-31).



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Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to mount the polishing element onto to the support member by chemical bonding in order to save material, thus lowering cost, and minimize problems associated with shrinkage, uneven cooling and the like during production.

19. Claims 1, 2, 6-11 and 13 are provisionally rejected under 35 U.S.C. 103(a) as being unpatentable over co-pending U.S. application 10/318787 (Meissner) in view of Teng ('643). Based upon the earlier effective U.S. filing date of the copending application, it would constitute prior art under 35 U.S.C. 102(e) if published or patented. This provisional rejection under 35 U.S.C. 103(a) is based upon a presumption of future publication or patenting of the conflicting application.

20. This provisional rejection might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the copending application was derived from the inventor of this application and is thus not the invention "by another," or by a showing of a date of invention for the instant application prior to the effective U.S. filing date of the copending application under 37 CFR 1.131. For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(I)(1) and § 706.02(I)(2).

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21. In reference to claim 1, Meissner discloses a precision polishing element to be used in conjunction with a slurry (§ 0010, lines 1-6 and § 0017, lines 1-2) that is mountable to a support member having an outer perimeter (figs. 8-12) capable of cooperating with a tool (fig. 18a) terminating at one end in a mounting surface (figs. 11 & 12, part # 51). Meissner, however, does not disclose that the polishing member has a plurality of spaced compliant polishing portions, nearest adjacent ones of said plurality of spaced compliant polishing portions being separated by a recessed portion, said recessed portion forming a fluid transport region when nearest adjacent compliant polishing portions are in contact with a surface to be polished. Teng discloses a retaining ring for a polishing head as discussed supra with polishing portions and recesses that act to feed a slurry solution from the outer periphery to the inner periphery of the retaining ring during polishing. Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to provide the invention of Meissner with a plurality of spaced compliant polishing portions, nearest adjacent ones of said plurality of spaced compliant polishing portions being separated by a recessed portion, said recessed portion forming a fluid transport region when nearest adjacent compliant polishing portions are in contact with a surface to be polished in order to more efficiently provide a slurry to the surface of an object to be polished.

22. In reference to claims 2, 6-11 and 13, Meissner also discloses that the polishing element has a substantially toroidal shape, that the polishing member shall comprise a material from the group consisting of an elastic solid material, a polymeric material, and a mixture thereof, more preferably a polymeric material selected from the group

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consisting of polyurethane, chloroprene, fluorocarbon, flourosilicone, ethylene propylene and nitrile and that the polishing member will most preferably be made of nitrile.

Meissner also discloses that the polishing member may be mounted to the support member by chemical, thermal or mechanical bonding.

### ***Double Patenting***

23. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

24. Claims 1, 2, 6-11 and 13 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 3-5 and 8-11 of co-pending application No. 10/318,787 in view of Teng for the same reasons as listed above for the 103(a) rejections made on the same claims using the same references.

### ***Conclusion***

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25. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kiuchi (JP 61257776 A) discloses a grinding/polishing tool with a toroidal shape and a fixed rigid support element, Inokuchi (JP 54112087 A) discloses a grinding stone with a groove formed in a circumferential portion, Fujita (6,077,153) discloses a polishing pad comprising nitrile and Boston (US 20020016143A) discloses a sanding machine comprising nitrile with a shore A hardness of 80.

26. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bryan R Muller whose telephone number is (703)305-0487. The examiner can normally be reached on M-F.

27. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph J Hail III can be reached on (703)308-2687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

28. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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10/28/2004